

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended in light of the following discussion is respectfully requested.

Claims 1-22 are pending in this application. Claim 1 has been amended by the present amendment. Support for the amendment of Claim 1 is found in the Specification at page 10, lines 1-4. No new matter is added by this amendment.

In the outstanding Office Action, Claims 1-5, 7-11, 15-18, 21, and 22 were rejected under 35 U.S.C. § 103(a) as obvious over Yates, U.S. Patent No. 4,443,638. Claims 6, 12-14, 19, and 20 were rejected under 35 U.S.C. § 103(a) as obvious over Yates, in view of Ueda, U.S. Patent No. 5,865,957.

Claims 1-5, 7-11, 15-18, 21, and 22 were rejected under 35 U.S.C. § 103(a) as obvious over Yates. Claim 1 is herein amended. As amended, claim 1 is directed to a process for preparing aldehydes and alcohols. The process includes subjecting olefins having 6-20 carbon atoms to a rhodium-catalyzed hydroformylation at a pressure in the range of 150 to 270 bar. Subsequently, the output from the the hydroformylation reaction is separated by distillation into the hydroformylation products and a rhodium-containing solution. This solution is then recirculated to the hydroformylation reaction. The rhodium concentration of the recirculated rhodium-containing solution is 20-150 ppm by mass.

In the present specification, applicants disclose the importance of utilizing higher pressures, including the claimed range of 150-270 bar, based upon the structure of the starting olefins, the rhodium catalyst used, and the desired effect. Particularly, applicants note the that higher pressures are advantageous in the case of olefins having internal double bonds. *See* Specification, page 10, lines 4-12. Yates, on the other hand, does not teach or suggest subjecting olefins having 6-20 carbon atoms to a rhodium-catalyzed hydroformylation at a pressure in the range of 150 to 270 bar. Instead, Yates teaches carrying out the

hydroformylation at lower pressures. Yates teaches that “[a] vital aspect of this invention is that in carrying out the hydroformylation, the rhodium catalyst concentration must be maintained under 20 parts per million of rhodium based on olefin. In addition to this, the temperature must be maintained over 145°C, and finally with the temperatures in this high a range it is necessary that pressures be maintained over 750 psig.” *See* Col. 8, lines 37-44. Applicants note that 750 psig is about 52 bar. Further, Yates teaches a maximum pressure of about 2000 psig (which is equal to 138 bar). *See* Col. 2, line 55. The range taught in Yates is lower than the range in amended claim 1.

Because Yates does not teach or suggest subjecting olefins having 6-20 carbon atoms to a rhodium-catalyzed hydroformylation at a pressure in the range of 150 to 270 bar, amended claim 1 is not obvious over Yates. Accordingly, applicants request the withdrawal of the rejections of claim 1 and claims 2-5, 7-11, 15-18, 21, and 22 depending therefrom, and the allowance of these claims.

Claims 6, 12-14, 19, and 20 were rejected under 35 U.S.C. § 103(a) as obvious over Yates, in view of Ueda. Like Yates, Ueda does not teach or suggest subjecting olefins having 6-20 carbon atoms to a rhodium-catalyzed hydroformylation at a pressure in the range of 150 to 270 bar. Ueda discloses a broad range of pressure conditions at which the hydroformylation reaction can occur, but does not disclose the specific range claimed in amended claim 1. Nor does Ueda offer any guidance or suggestion for selecting the specific claimed range. Accordingly, applicants respectfully request the withdrawal of the rejections of Claims 6, 12-14, 19, and 20, and the allowance of these claims.

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Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance. An early and favorable action to that effect is respectfully requested.


Respectfully submitted,

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